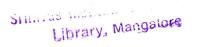
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## Second Semester B.Arch. Degree Examination, Dec.2013/Jan.2014 Surveying and Levelling

Max. Marks:100 Time: 3 hrs.

Note: Answer any FIVE full questions.

Discuss in brief the principles of survey with neat sketches.

(10 Marks)

b. Define shrunk scale.

(04 Marks)

- c. The area of the plan of an old survey plotted to a scale of 10 meters to 1cm measures now as 100.2 cm<sup>2</sup> as found by a planimeter. The plan is found to have shrunk so that a line originally 10cm long now measures 9.7cm only. Find: i) the shrunk scale; ii) True area of the survey. (06 Marks)
- What are the accessories required for chain surveying? 2

(10 Marks)

- A 20m chain was found to be 10cm too long after chaining the end of day's work after chaining a total distance of 2900m. Find the true distance if the chain was correct before the commencement of the work. (10 Marks)
- Explain the methods of erecting perpendicular to a chainline from a point on the chain line. 3

(10 Marks)

- A survey line BAC crosses a river, A and C being on the near and distant banks respectively. Standing at D, a point 50 meters measured perpendicularly to AB from A, the bearings of C and B are 320° and 230° respectively AB being 25m. Find the width of the river. (10 Marks)
- What are the advantages and disadvantages of plane table survey? a.

(10 Marks)

- List the methods of plane table survey and explain any one with neat sketch.
- (10 Marks)
- Define leveling, datum, elevation, mean sea level and bench mark. 5

- The following staff readings were observed successively with a level, the instrument having been moved after third, sixth and eight readings: 2.228; 1,606; 0.988; 2.090; 2.864; 1.262; 0.602; 1.982; 1.044, 2.684 meters. Enter the above readings in a page of a level book and calculate the R.L. of points if the first reading was taken with a staff held on a bench mark of 432.384m. (10 Marks)
- Define the terms:
  - Face left observation.
  - Face right observation.
  - Swinging the telescope.
  - Transiting the telescope.
  - Telescope normal in theodolite survey.

Explain the measurement of horizontal angle by repetition method, using theodolite.

(10 Marks)

- Describe with the help of sketches, the characteristics of contour. 7 a.
- (10 Marks)

Explain with sketches, the uses of contour maps.

(10 Marks)

- 8 Write short notes on:
  - Cross staff a.
  - Perpendicular offset and oblique offset.
  - Orientation of plane table. c.
  - Classification of surveying.

(20 Marks)